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ABSTRACT

A study was made to determine whether or not kindergarten entry age is a factor in academic failure. The 457 seventh- and eighth-grade students who were subjects in the study had attended Fairfax County, Virginia, Public Schools since kindergarten. Although the subjects were born during 1970, they were classified as younger and older on the basis of their birth month. Academic failure was measured by low readiness test scores, composite achievement scores below the 50th percentile, grade retention, remedial services, and failing marks. The data used were taken from cumulative records. A 2 x 2 factorial design served as a basis for the data analyses, with age and sex as independent variables. According to the findings, younger entrants earned disproportionately more scores that fell into the low range of the Metropolitan Readiness Test and earned disproportionately more composite achievement scores below the 50th percentile in grades 4 and 6. Younger entrants were disproportionately retained in grade and were more likely to be receiving remedial instruction. In addition, younger entrants did not appear to overcome their inferior position as they progressed through the elementary grades. Findings raise the following questions: Should all students, regardless of age, be expected to meet program standards set by the school division for each grade level? Or should the program at each grade level be flexible and adapted to the needs and age of each student? (RH)

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KINDERGARTEN ENTRY AGE AS A FACTOR IN ACADEMIC FAILURE

Presented to the

American Association of School Administrators

1985 Convention

Dallas, Texas

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A Research Report

based on a Dissertation Study

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ABSTRACT

KINDERGARTEN ENTRY AGE AS A FACTOR
IN ACADEMIC FAILURE

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University of Virginia, 1984
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The study was undertaken to determine whether or not kindergarten entry age is a factor in academic failure. At the time of the study, chronological age was almost the sole criterion used as a basis for school admission. According to the findings of previous studies and expressed concerns of principals and teachers, there was reason to suspect that younger entrants experienced disproportionally more academic failure than did their older classmates. Therefore, it seemed important that the relationship between age and academic failure be investigated.

Academic failure was measured by low readiness tests scores, composite achievement scores below the 50th percentile, retention, remedial services, and failing marks. The three major questions were as follows: (1) Are there significant differences in the propotion of younger entrants and the proportion of older entrants who experience academic failure? (2) Among younger entrants, do boys experience significantly more academic problems than do girls? and (3) Do these differences,

if they exist, diminish significantly as children progress through school?

The 457 seventh and eighth grade students who were subjects in the study had attended Fairfax County Virginia Public Schools since kindergarten. Although the subjects were born during 1970, they were classified as younger and older on the basis of birth month.

The data used were taken from cumulative records. A 2 x 2 factorial design served as a basis for the data analyses, with age and sex as independent variables. Differences which resulted from group comparisons were tested at the .05 level of confidence by use of the chi-square, multifactor analysis of variance, and one-way analysis of variance.

The findings, which are detailed in Chapter Four, are summarized here. They are organized according to the three major questions posed in the study.

Findings Based on Comparisons Between Younger and Older Entrants

1. The proportion of younger entrants who earned a low rating on the Metropolitan Readiness Tests (MRT) was significantly greater than the proportion of older entrants who earned a low MRT rating.

2. The MRT mean score of younger entrants was significantly lower than the mean MRT score of older entrants.

3. At grade four, the proportion of younger entrants who earned a composite achievement score below the 50th percentile was significantly greater than the proportion of older entrants who earned a composite score below the 50th percentile.

4. At grade four, the mean composite achievement score for younger entrants was significantly lower than the mean composite achievement score of older entrants.

5. At grade six, the proportion of younger entrants who earned a composite achievement score below the 50th percentile was significantly greater than the proportion of older entrants who earned a composite achievement score below the 50th percentile.

6. At grade six, the mean composite achievement score for younger entrants was significantly lower than the mean composite achievement score of older entrants.

7. The proportion of younger entrants who were retained in grade was significantly greater than the proportion of older entrants who were retained in grade.

8. The mean frequency of retention for younger entrants was significantly greater than the mean frequency of older entrants.

9. The proportion of younger entrants who received remedial instruction outside the regular classroom was significantly greater than the proportion of older entrants who received remedial instruction outside of the regular classroom.

10. The mean frequency for receipt of remedial services outside the regular classroom was significantly greater for younger entrants than for older entrants.

11. At grade seven, there was no significant difference in the proportion of younger and older entrants who received one or more failing marks on the final report card.

12. At grade seven, the mean number of Ds and Fs received by younger entrants was not significantly greater than the mean number of Ds and Fs received by older entrants.

Findings Based on Comparisons Between Younger Boys and Younger Girls

13. The proportion of younger boys who earned a low rating on the MRT was not significantly greater than the proportion of younger girls who earned a low MRT rating.

14. The MRT mean score for younger boys was not significantly lower than the MRT mean score for younger girls.

15. At grade four, the proportion of younger boys who earned a composite achievement score below the 50th percentile was not significantly greater than the proportion of younger girls who earned a composite achievement score below the 50th percentile.

16. At grade four, the mean composite achievement score for younger boys was significantly lower than the mean composite achievement score for younger girls.

17. At grade six, the proportion of younger boys who earned a composite achievement score below the 50th percentile was significantly greater than the proportion of younger girls who earned a composite achievement score below the 50th percentile.

18. At grade six, the mean composite achievement score for younger boys was significantly lower than the mean composite achievement score for younger girls.

19. The proportion of younger boys who were retained in grade was not significantly greater than the proportion of younger girls who were retained in grade.

20. The mean frequency of retention for younger boys was not significantly greater than the mean frequency of retention for younger girls.

21. The proportion of younger boys who received remedial instruction outside the regular classroom was significantly greater than the proportion of younger girls who receive remedial services outside of the regular classroom.

22. The mean frequency for receipt of remedial services for younger boys was significantly greater than the mean frequency for receipt of remedial services for younger girls.

23. At grade seven, the proportion of younger boys who receive one or more failing grades was not significantly greater than the proportion of younger girls who receive one or more failing grades.

24. At grade seven, the mean number of Ds and Fs received by younger boys as final grades was significantly greater than the mean number of Ds and Fs received by younger girls.

Findings Related to the Question of Achievement Differences Over Time

25. The mean gain score of younger entrants and the mean gain score of older entrants were not significantly different which meant that achievement differences between the two groups remained constant from grade four to grade six.

26. The mean gain score of younger boys and the mean gain score of younger girls were not significantly different which meant that achievement differences between the two groups remained constant from grade four to grade six.

It was apparent from the preponderance of evidence collected that younger entrants experienced disproportionally more academic failure than did their older entrants classmates. In ten of twelve comparisons, differences were significant in favor of older entrants. In comparisons made between younger girls and younger boys, significant differences were found favoring younger girls in seven of twelve comparisons. It appeared that younger entrants, as compared to older entrants, and younger boys as compared

with younger girls, did not overcome their inferior academic position as they progressed through the elementary grades.

The importance of findings that a disproportionate number of younger entrants earned a low MRT rating, scored below the 50th percentile on achievement tests in grades four and six, left their classroom for remedial instruction, and were retained in grade, lies in the possibility that such findings may reflect serious academic problems among a segment of school population.

Seemingly, many methods designed to address the problem had been less than satisfactory because of the tendency to adopt only those measures which can be managed easily administratively. Although this is an understandable position, it is not defensible if it results in a situation in which a segment of the school population is placed at an unfair disadvantage in terms of opportunities for school success.

It appeared unlikely that, in the near future, a solution to the complex entry age problem could be found which would please state legislators, the school community, principals, and teachers. Therefore, it seemed wise to consider intermediary steps, in particular, those which could serve to align the programs and practices of a school system with its stated philosophy. Such an interim measure had the potential to help set the stage for comprehensive approaches to the entry age question in the future

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and might result, also, in some immediate benefits for staff and students.

Responsible individuals within each school system must clarify their educational philosophy, and in so doing state clearly whether they believe that students are expected to meet program standards set at each grade level, or whether they believe that the program at each grade level should be adapted to the needs of each student. Should the position be that children must adapt to the standards of the school's instructional program, it is probable that younger entrants, who can be as much as 364 days younger than some of their classmates, will be at a disadvantage because, typically, grade level standards rather than age standards are used. On the other hand, if the position established is that the program should be flexible enough to accommodate adequately the needs of all children who are admitted, then grade level standards and norm based standardized tests are not reasonable standards of academic success and failure for every student; thus, alternative standards must be sought.

Once a position has been established and made clear to students, staff, and community, this philosophical position should serve as a guide for, and be consistent with student evaluation practices, promotion and retention decisions, the interpretation and use of standardized tests scores, and other instructional practices. Regardless of the position

with which responsible educators align themselves, they should stand ready to defend it logically and to demonstrate that their practices and procedures are in support of their position; otherwise, they may be accused of having no philosophy on which to base the education of children. During times of increased demands for improved student performance, school officials must assure that administrative practices result in classroom environments in which students can be challenged appropriately.

Table 25

Proportional Comparisons Between Younger and Older Entrants Based on Six Measures of Academic Failure Differences Tested by Use of Chi-Square

Dependent variable measure	Younger entrants	Older entrants	Chi square value	Degrees of freedom	Significance
Low MRT rating	6.7	2.5	4.18	1	.04*
Grade four composite score below the 50th percentile	23.9	13.5	7.34	1	.00*
Grade six composite score below the 50th percentile	18.7	12.1	3.82	1	.05*
Retained in grade	23.4	6.8	24.5	1	.00*
Received remedial services	34.4	25.7	3.67	1	.05*
Received Ds or Fs in grade seven	20.9	22.0	.075	1	.78

*Statistically significant at the .05 level of confidence

Table 26

Proportional Comparisons Between Younger Boys and Younger Girls Based on Six Measures of Academic Failure
Differences Tested by Use of Chi-Square

Dependent variable measure	Younger boys	Younger girls	Chi square value	Degrees of freedom	Significance
Low MRT rating	9.2	4.6	.736	1	.39
Grade four composite score below the 50th percentile	28.6	20.0	1.40	1	.23
Grade six composite score below the 50th percentile	25.9	12.7	4.43	1	.03*
Retained in grade	29.5	18.3	2.77	1	.09
Received remedial services	44.3	26.0	6.32	1	.01*
Received Ds or Fs in grade seven	30.2	14.1	4.69	1	.03*

*Statistically significant at the .05 level of confidence